First semester 2021 / 2022

Week 2

4th Pry

Information and Communication Technology

Sahar Mohammady

ICT Definition

Information:
Refers to the Knowledge obtained from reading, study and research.

Communication:
The process of transmitting and exchanged information between individuals.

Technology:
Application used to solve problem

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Impact of ICT in our Daily Lives

For Students

- Improve performance throw discovery learning
- Collaborate with your group.
- Access information online.

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Active Explorer

FIRST LESSON

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Who is he?

Who is he?

Albert Lin

A famous **archaeologist** uses modern tools to explore archaeological sites without digging.

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Who is he?

He is A famous **archaeologist** uses modern tools to explore archaeological sites without digging.

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The importance of Technological tools for archaeologists :

▶ Save time and effort

▶ Speed to get result

▶ Explorer before digging

▶ Dig for long distance

▶ Conduct a survey over the ground to determine the places they want to search

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What are the most important tools that archaeologists use?

1

Satellite: **Collect clear images**

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What are the most important tools that archaeologists use?

2

Drone: Helping us find sites without digging

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What are the most important tools that archaeologists use?

3

GPS: Global **P**ositioning **S**ystem (search for a place using satellites, then start to search under the ground)

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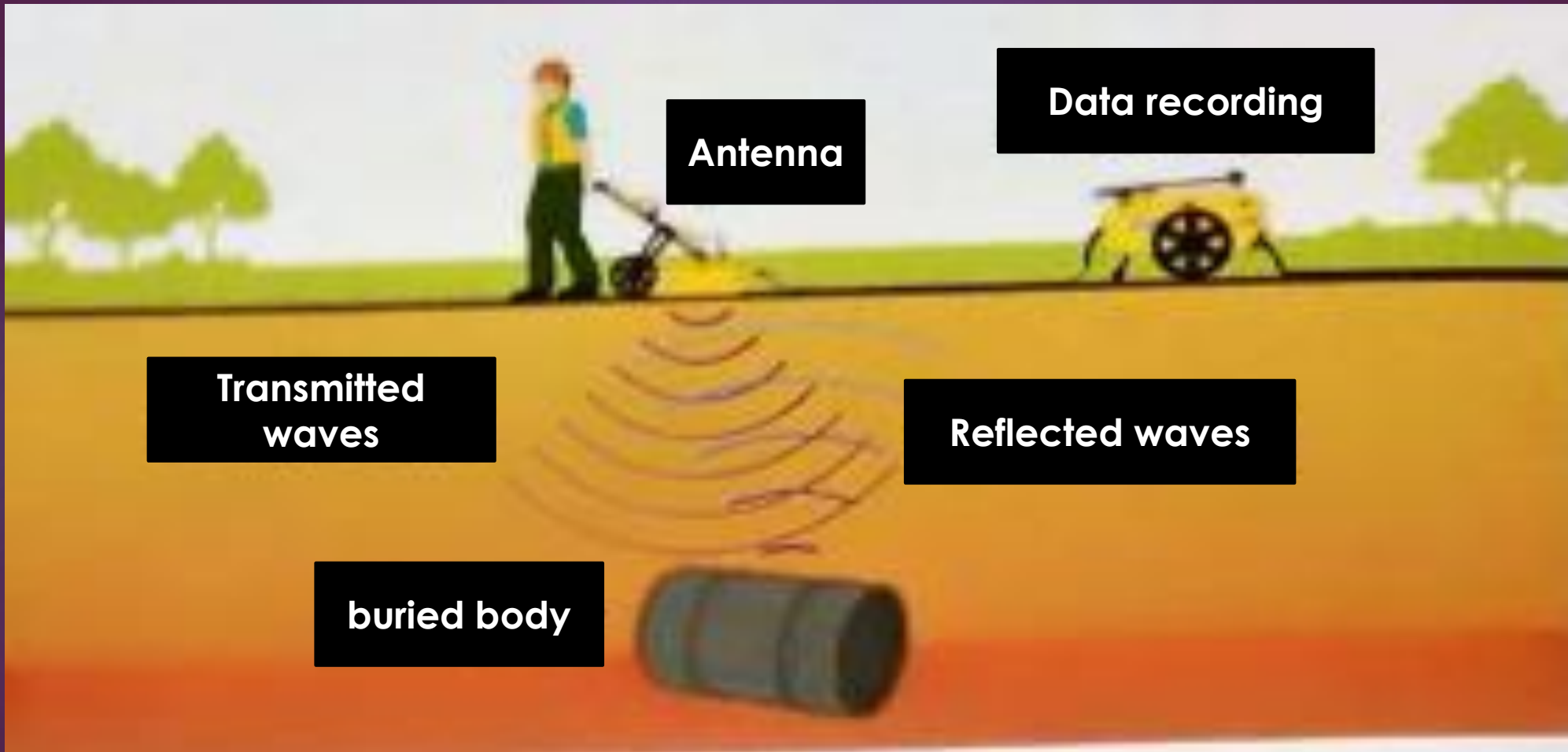# What are the most important tools that archaeologists use?

4

magnetometer : **A device that measures magnetic field (direction& strength) To Find minerals in the ground**

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4 Ground-penetrating radar (GPR): It is used to find buried objects underground.

Antenna

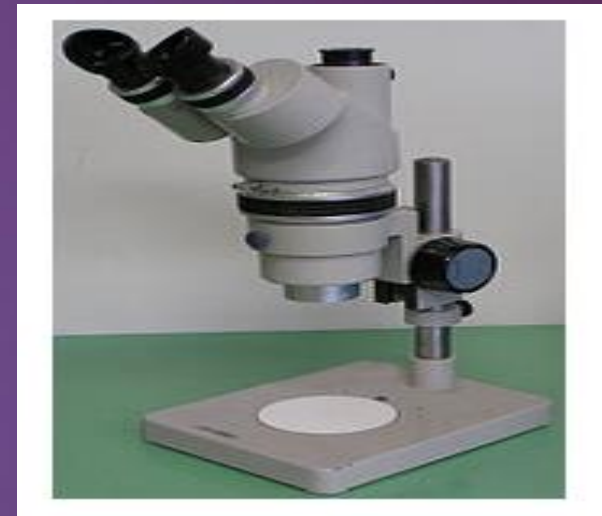Data recording

Transmitted waves

Reflected waves

buried body

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What are the most important tools that Scientists use?

A telescope is a device we use to make objects appear closer)

Create clear picture of an atom

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What are the different types of technology used to explore the earth?

- ▶ **Tools above the ground**
- ▶ **Tools under the ground**

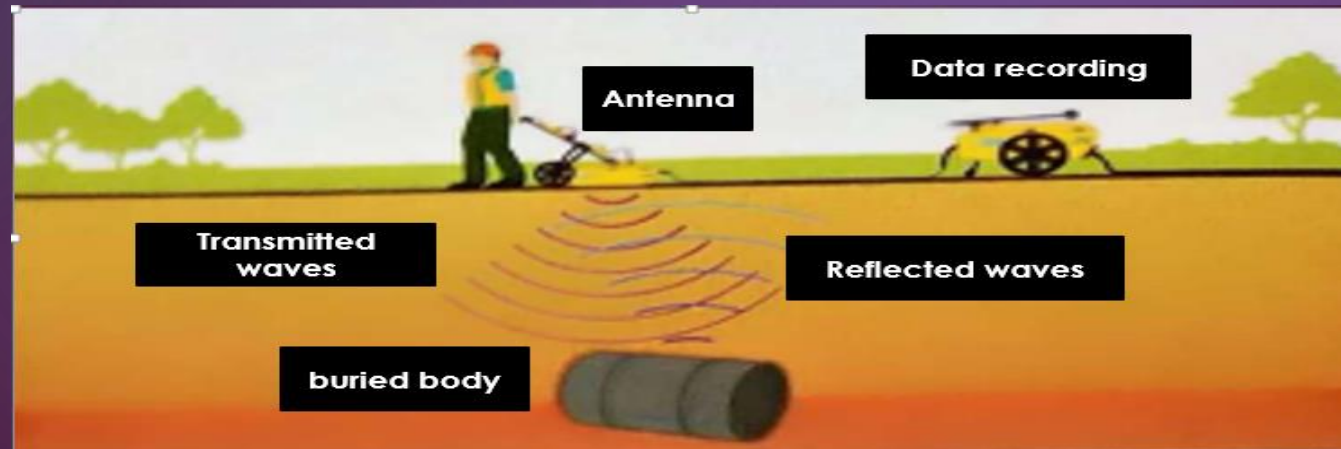# Which technological tools do **archaeologists** **use** above ground ?

satellite

GPS

Drone

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Which technological tools do **archaeologists** **use** under the ground?

magnetometer

Data recording

Antenna

Transmitted waves

Reflected waves

buried body

Ground-**p**enetrating **r**adar
(**GPR**)

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What do archaeologists do when they do not know where to dig?

- ▶ **Use drone**
- ▶ **Satellites**
- ▶ **Ground-penetrating radar (GPR)**

Which tool did Albert use?

Tablet

How did he see what trees hided?

By using **Augmented reality platform** which built to get hidden data, it should be able to tell us what's beyond the trees by Creating a map by lasers in the sky point to find lots of treasures

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Remember

What are the most important tools that archaeologists use?
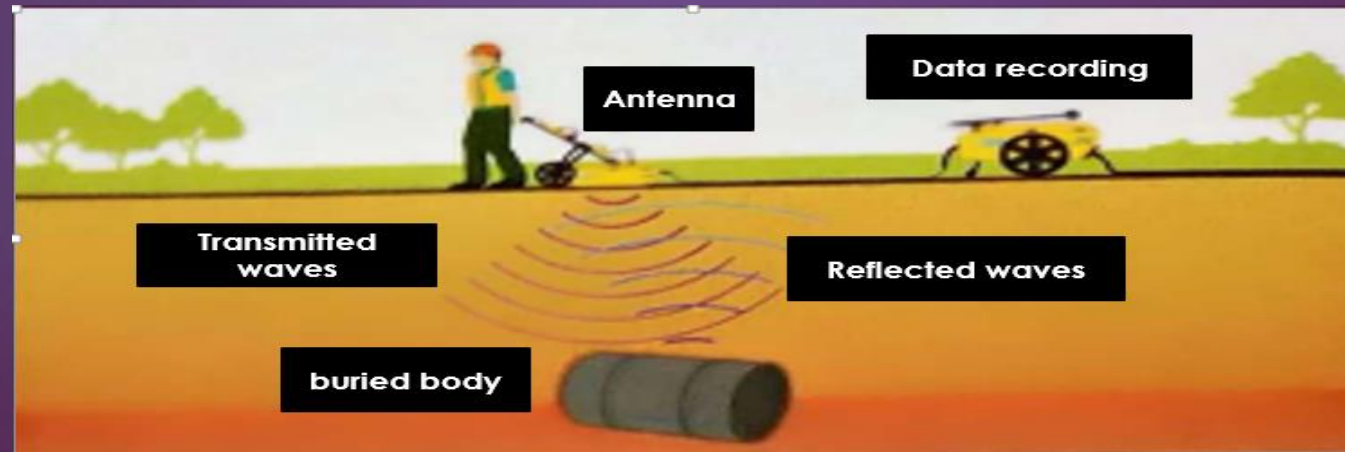
Satellite

magnetometer

GPS

Drone

GPR

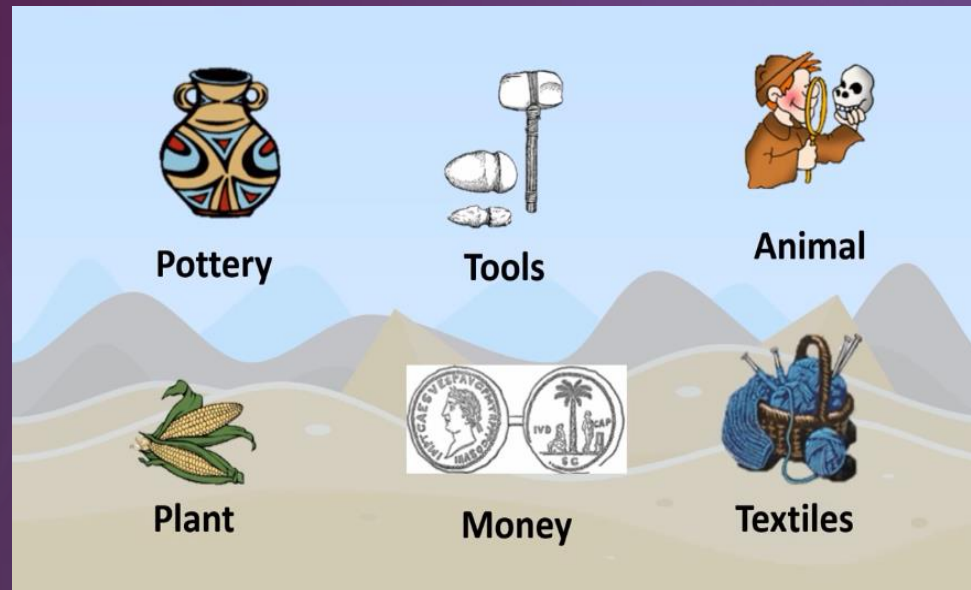Sahar Mohammady

What can **archaeologists** find using these tools?

Cities underground

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What are the most important skills to an engineer?

- ▶ **Teamwork**
- ▶ **Creativity**
- ▶ **Problem solving**
- ▶ **Logical Thinking**

What are the most important skills to an **archaeologist** ?

▶ **Teamwork**

▶ **Update to technology**

▶ **Creativity**

▶ **Problem solving**

▶ **Logical Thinking**

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Which tool can you use in this case?

You want to see if there are coins under the ground.

magnetometer

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Which tool can you use in this case?

Your friend sent a message that he lost the way and you try to find him.

GPS

Which tool can you use in this case?

You want to see if there is an ancient building under the ground.
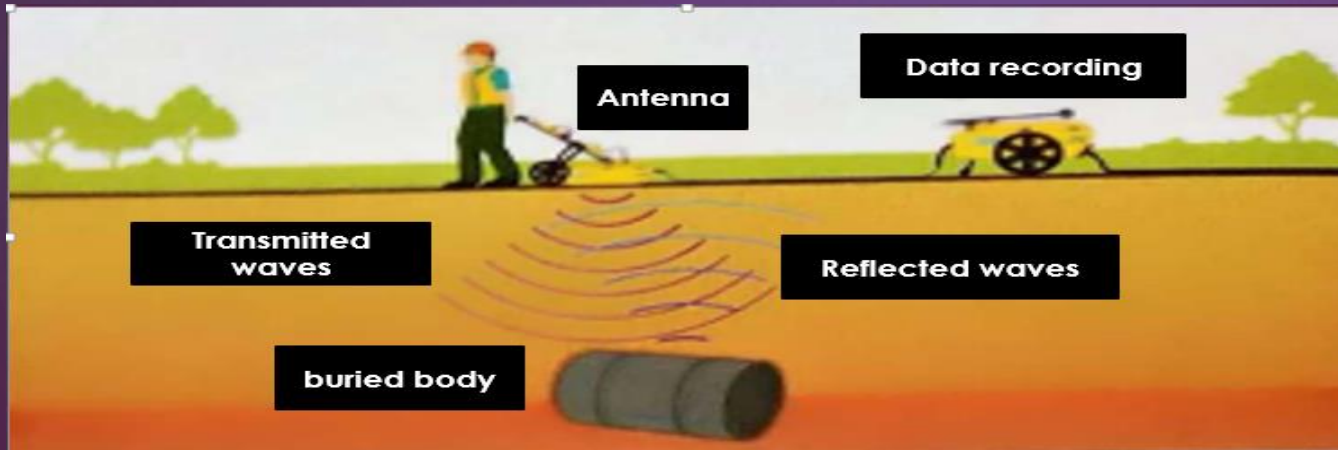
Ground-penetrating radar (GPR)

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Class Activity

Divide students into groups then discuss

Mr Albert Lin relied on his engineering experience while practicing his work as archeologist try to think about other fields that could be helpful to archeologist.

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Class Activity

Divide students into groups then discuss

After 50 years from now what are the technology changes that will happen? And how these changes will help archeologists?

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Think and answer

Imagine that you will go on expedition archeology trip to find buried city in desert what are technology tools you will use?

Write a short paragraph star with To embark on our expedition we will need

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Thank you

Wait for next lesson

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Technology and its historical development

Lesson 2

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1 Pre-Mechanical Revolution Era

عصر ما قبل الثورة الميكانيكية

Time	3000 BC to 1450 AD
Communication between people	1.Through pictures and graphics as it was in hieroglyphic writing. 2.letters and numbers in later stage.
Documents	Lots of information about the agreements concluded and which represent important documents (you can find on the internet / EKB)
Importance of documents	It presented an essential role to understand History
inventions	Papers / ink pen / counter

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2

Time	1450 AD to 1840 AD
Communication between people	printing technology (printing books). -appearance of pascalen the first version of calculator.
Documents	Recording and sharing more information (this is the beginning of technology revolution)
Importance of this Era	It considered the beginning of technology revolution
inventions	Printer/ calculator / typewriter

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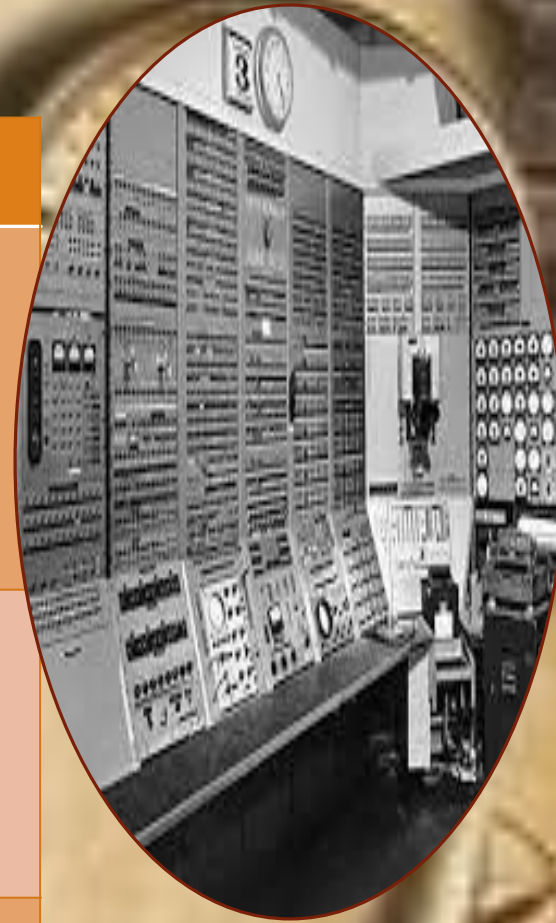
Time	1840 AD to 1940 AD
Communication between people	**Todays communication methods (the first use of electricity)**
inventions	**Phone / phone lines/ the first digital computer/ recorder**
Description of the first computer	**its height was 8 Feet, 50 feet length and width 2 feet, While its weight reached 50 tons.**

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4

Time	1940 AD till now
Features of this Era	-The era of information revolution -Amazing inventions and achievements
Communication between people	-Connect a lot of people (email + SMS) immediately. - indicate places allover the world(GPS)
inventions	computer / laptop / satellite/ GPS / word processing

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What are the technological tools that help people to contact each other?

Smart phones
WhatsApp
Face book
SMS

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How do you use technological tools at school, home and society?

At School :
-Smart board (e-learning)
-Data Show (videos – presentations)
At Home :
-Social plat form to contact each other
-Search engine
-YouTube
-laptop or Pc (learning / playing / work)
Society:
Digital Government

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Q3.Complete the table:

1.Pre-Mechanical Revolution Era

2.The era of the electric revolution

3.The era of the mechanical revolution

4.The era of the electronic revolution

a. Printer, calculator and typewriter.
b. Satellite, smart phone, GPS, computer and word processing
c. Ink pen, pencils, papers and counter
d. Phone ,phone lines and recorder

Dates	Technology Era	inventions
3000 BC to 1450 AD	1	c
1450 AD to 1840 AD	3	a
1840 AD to 1940 AD	2	d
1940 AD till now	4	b

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Q4.think: then complete

pencil ———|——— **Typewriter** ———|——— **recorder** ———|——— Word processing

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Q4.think: then complete

counter   **Calculator**   **Computer**

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Activity

A wise text that has a definitive secret of great importance on a green dress and wrapped in blue leather.

	Trial 1	Trial 2	Trial 3
Write on paper			
Type using mobile			
Type using computer			

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Q5.which communication method you will use in these situations:

1. Your friend asking you if you can hang out together and you need to send him a response saying "yes".

SMS

2. Your grandma lives away from you and you would like to tell her about school and what you will do when you reach her?

Chatting on social platforms

3. You would like to send your friend short message wish him happy birthday.

SMS

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Q5.which communication tool you will use in these situations:

1. What are the technological tools at home? How do you use?

-Smart phones (Contact people / search)
-PC or laptop (learn / work /play)

2. What are the technological tools you would like to use in the future?

-Robot at my home
-car without driver

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Thank you

Wait for next lesson

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Components of Computer

ICT
Information and Communication Technology

Lesson 3

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Computer

Computer is an electronic device which has the ability to store data and information which you can **retrieved** and **process** them.

Computer uses:

- Writing documents
- Send Email
- Surfing the internet
- Playing Games

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2

Computer shape and its components

laptop   Desktop
Smart Devices

The shape and components of computer is different according its model

Forms of Computer			
PC	Laptop	Tablet	Touch Screen

Components you need to use computer	
Key board	Used for typing and sending commands to the computer
Mouse	Its size suitable to your hand, it allows you to move objects easily.
Screen	Which allows you to see what you can do on your computer.
Speakers / Camera / Mic	To hear / to be seen by others / to be heard by others.

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3

Computer operation

Users enter Data via keyboard and other devices, then we get information on the screen.

Input Data and instructions

Process

Output Information

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4

Components Of Computer

in put units		Out put units	
unit's Name	Data Type	unit's Name	Data Type
keyboard	Letters and numbers	Screen	Visual information (Text /Pics/video files)
Mouse / screen touch	A guide to select objects	Braille terminal	Written text for blind people in Braille way
Microphone	Sound and music	Speakers	Audio information
Camera	Pictures or video files	Speech Synthesizer	Audio information
Scanner	Text and Pictures from Paper	Printer	Text and pictures on paper

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5

Computers are effective when the entered Data is useful

Be careful you may make a mistake:
Some users may connect devices in a wrong way or misuse of them.

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6

Write the component name

Function	Component Name
Interactive with information by selecting from the screen	.....Mouse...............
View visual information (text/pics/video files)	.....Screen...............
Enable user to enter pics to computer	.....Camera...............
Enable user to enter text to computer	...keyboard............
Enable user to enter text and pics to the computer from paper	...Scanner...............
Enable user to get out text and pics from the computer to paper	....printer................
Enable user to enter audio parts to computer	...Mic....................
Enable user to get out audio parts from computer	...Speakers............

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Write the name
of the right
Component:

1.This component enables blind people to use
computer   Braille terminal

2.This component enables dumb people to talk
     Speech Synthesizer

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Think

1.Do your family and friends use computers? For what?

2.When do you need to use these components:
- Camera:..
- Mic:...
- Speakers:...

3. In you Opinion which is more useful printer or scanner?

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Think

Suggest some devices that can use computer component ?

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11

Thank You!

Wait for next lesson

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ICT
Information and Communication Technology

4th pry first Term

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SOFTWARE
AND
OPERATING SYSTEM

Fourth lesson

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HOW DOES COMPUTER WORK?

Suppose you will type a report to your school

What will you do? ➡️

1. Open your computer

2. Open typing program like MS Word (by clicking on the name of the program it gives command to the computer's operating system to access and open the program)

Operating system is a type of Software

HOW DOES COMPUTER WORK?

Suppose you will type a report to your school Inside Computer? →

Operating system sends commands to CPU (one of computer Component) It controls the processed Data and the way of processing.

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INSIDE COMPUTER

Student Types in MS Word

Operating system **sends** data to CPU

CPU processes Data

CPU **Sends** information to Operating System

Operating system **receives** information and **displays** it on computer screen

Welcome

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5
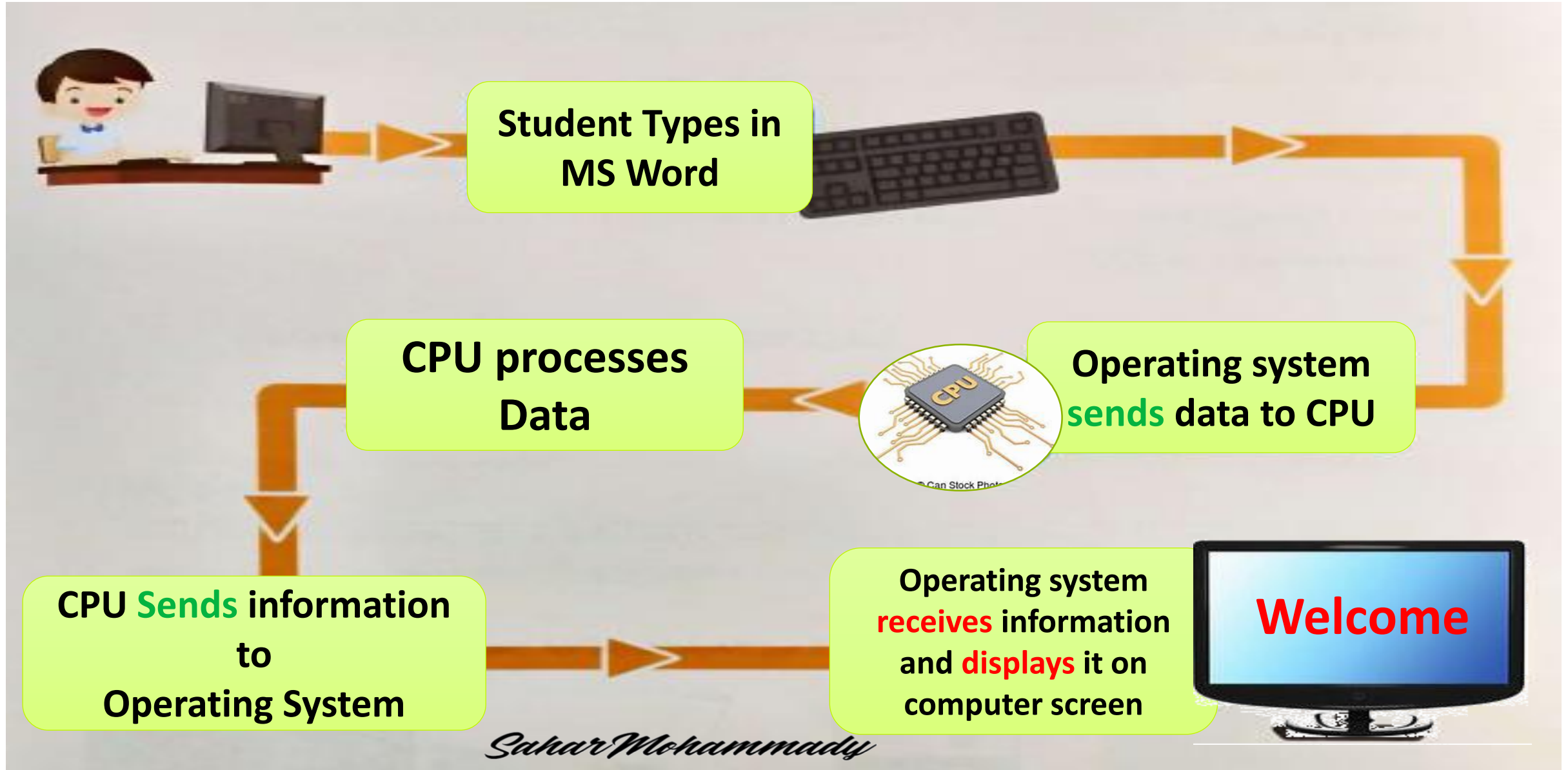
NOTE
If any problem happened to MS Word before operating system sends commandos to CPU you may **lose** your work **so**, remember to save your work regularly.

REVISE

What is the difference between software and devices?

Tell some one How does computer work?

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Q1

MS Word	Power Point	Gaming Apps	Windows

Google Chrome browser	Keyboard	Screen	CPU

Devices	Operating System	Software

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Q2

| | A | B | C | D |

1.Open the program and start typing.	C
2.This device receives information and sends it to the operating system which translate this information.	A
3.CPU receives information from Operating System and processes this information to send it back to operating system.	D
4.After Operating system sent this information to the program. The program displays information on the screen.	B

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THANK YOU

Wait for next lesson

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SUPPORTING PEOPLE
OF
DETERMINATION

LESSON 5 FIRST TERM

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ASSISTIVE TECHNOLOGY

How can Technology help people of determination?

Assistive Technology:

Technological tools that help **people of determination**

Assistive Technology function:

Help **people of determination to do difficult work That can't do.**

Albert Lin has an amputated leg, but he didn't give up and still in his successful way and he still travels around the word by using prosthetic leg (**Assistive Technology**)

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He is still doing every thing he used to do

EXAMPLES
OF
ASSISTIVE TECHNOLOGY

1.HEADPHONES

Function:

Help people who suffer from hearing problems to hear well.

Technology:

-New styles are connected to mobile phone.

-There are some apps that can control the headphone through mobile phones

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2.Screen Magnification Software

Function:

Help people who have suffer from **visual impairment** by magnifying everything on computer screen (**words/images**)

3.Alternative Communication Software

Function:

Help people of determination to communicate with others.

Technology:

There are some software can convert written text to speech and vice versa.

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4.Sport Equipment

Function:

Help people of determination and amateur who have lost one of their limbs to climb mountains.

Technology:

-Assistive Technology can help them carry out normal and extraordinary activities.

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5.Soccer Balls

Function:

It makes sound to help people of determination.

6.Tricycles

Function:

It can operated by hands to help people of determination.

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Q1.What are the technological tools that help people of determination?

Q2.Away from Technology how can we help people of determination to live better life ?

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Write the benefit of each tool:

1. **Soccer Balls (make sound)**

....

2. Mobile phones with big buttons

....

3. **HeadPhones**

....

4. Screen Magnification Software

....

5. **Tricycles**

....

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Stephen hawking was a famous scientist he used to use
Assistive Technology (speech synthesizer)
to communicate with others.

Rearrange the steps in the right order:

a. When I have a sentences the computer sends it to speech synthesizer. | 2

b. I look at the screen then I see the words on it. | 3

c. I press on a key with my hand, to select the words I need to write a sentences. | 4

d. The Technique of speech synthesizer converts words into speech which help others to hear what I want to say. | 5

e. I can't talk so I communicate with others by using computer system built in my private Wheelchair. | 1

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Technology can help people of determination to do the same activities which normal people can do.

Read and answer:

Mention three activities which you like to do?	What is the difficulty of these activities for people of determination to do ?	What are the technological tools that can help people of determination to do these activities?

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THANK YOU !

WAIT FOR NEXT LESSON